of the pupil, as the subject looks farther and farther upward is truly beautiful to contemplate." Further along he says again, "No matter how little there is (of upward rotation), the Motais operation is the one, in my opinion, that should be chosen. After the lid is once raised, the superior rectus develops more and more its proper function. Herein lies the explanation of a unique and most gratifying feature of the Motais method, viz., the constantly increasing enhancement of the effect for weeks and even months after the operation."

These quotations leave little to be said, except to report the results in my six operations.

CASE REPORTS

Case 1. Miss M. B., age 25, presented a complete ptosis of left lid, the result of falling on a button-hook in her third year. There was also a downward displacement of the globe. Upward rotation only 20 degrees as compared with 40 in the other eye. With the idea of increasing upward rotation, as preparatory to a Motais, two preliminary operations were done—a shortening of the superior rectus and a lengthening of the inferior rectus. After these vertical rotations were practiced for three months, by which time the upward rotation had reached 35 degrees. The Motais was done on May 20, 1919, without much trouble. The result was excellent, the pupil being uncovered even in extreme upward rotation. The brow, which was very high, gradually came down, finally nearly to same level as the other. This case had had two operations which must have been merely skin exsections, so that the lid hung from the brow like a curtain. This patient was shown at the 1919 meeting of the Pacific Coast Oto-Ophthalmological Society.

Case 2. J. J., age 6 years. Congenital ptosis of left lid. Upward rotation of globe normal. There is also a convergent squint. Motais on December 8, 1919, without trouble. Healing uneventful. One year later the excellent result was maintained, the pupil remaining uncovered even in far upward rotation. In primary position the lid aperture is only one-half millimeter less than that of the good eye. The convergent squint has practically disappeared. Fig. 1 (a and b).

Case 3. Mrs. H. S., a music teacher, who desired the operation for cosmetic effect. The drooping of right lid had been gradually increasing for fifteen years and now the aperture is only one-half that of the other side, even less when tired locally or generally. Motais done February 2, 1920, without trouble and with uneventful healing. On June 2, 1920, the palpebral aperture was 9.5 as compared with 10 millimeters in the good side —9 in extreme upward rotation.

Case 4. A. P., age 6 years. A case of bilateral hereditary ptosis with reversed epicanthus (lower lid overlaps upper) and convergent squint. The case is similar to Case 5 (whose picture accompanies this paper), only the deformity is much worse. I was unable to secure a picture of this little girl. The Motais was done on September 2, 1920, without trouble, and healing was uneventful. The usual effect was secured, namely an uncovered pupil even in upward rotation, while before operation she had to throw the head far back in order to see under the lid margin. Fig. 2.

Case 5. F. R., age 4. As stated above is similar to 4, only not so bad and no heredity. This case had had an operation on each lid by another ophthalmologist and also one on the nasal bridge for the epicanthal deformity. All were failures according to the mother's statement. I think no attempt should be made to correct the epicanthus till maturity as the growth of nasal bridge lessens it. This deformity in the father of Case 4 was hardly noticeable. Upward rotation of globes normal. Motais November 12, 1920. This case must have had the cornea injured during the operation, for he developed a large ulcer near upper border with hypopion. This, however, cleared up and is hidden by the upper lid. The pupil remains uncovered even in upward rotation, as shown by the picture. The contrast in the two sides gives the before and after appearance. Fig. 3.

Case 6. L. N., age 6 years. In this case the ptosis was the result of injury when three years of age. At that time she fell on a penholder which penetrated the orbit between the globe and upper wall. It broke into many pieces, several of which were removed by a general surgeon immediately after the injury. Several weeks later the proptosis remaining, she was brought to me, and study of the case showed a large fragment in the apex of the orbit. This at operation was found firmly set in the optic foramen and was removed. Of couse the eye was permanently blinded. Motais was done on February 24, 1921, without trouble. In this case instead of pulling the upper lid down to the lower to protect cornea, I pulled the lower lid up. This, I think, is the cause of a slight overeffect, causing about a two millimeter opening during sleep. Outside of this there was no trouble, the aperture is equal to that of the other eye, even in upward rotation, while before operation it was three millimeters less. During the three years' time the blind eye diverged widely, to correct which I shortened the internus on April 25, 1921, the result of which is, at this date, uncertain. Fig. 4 (a and b).

NOTES ON PRE-NATAL CARE

From the Fresno Clinical Group, Fresno, Cal.
By G. CARL H. McPHEETERS, M. D., Fresno, Cal.

It is a frequent occurrence in the daily practice of most physicians to hear women express their reluctance to bear children. Usually one or two of the following reasons are expressed:

Fear that child-bearing will

1. Spoil the figure.
2. Undermine the general health.
3. Keep them at home for nearly a year.
4. Interfere with their work outside the home.
5. Interfere with their social pleasures.
6. That they might not receive proper care during pregnancy, confinement and the puerperium.
7. It is also commonly said, "We cannot afford any children."

In the minds of many American women these constitute real excuses. The actual underlying reason is the tardy development of Obstetrics as the practice of medicine. Although the oldest of the branches of medicine, Obstetrics is still as little developed among the profession in general as psychiatry, radium therapy and others of the newest branches of medicine.

To overcome the excuses of the childless, physicians should develop the art of Obstetrics to a point where it at least has more to offer her than mere midwifery. It too frequently happens the very minimum of service is rendered in Obstetrics, so little in fact, that not only the patient, but her relatives and friends, are often anxious about the outcome of her confinement, and fearful to undertake a pregnancy themselves. There is an increasing number of women, even the wives of the poor, who will make every effort to meet

the increased cost of intelligent pre-natal and post-partum care in addition to qualified services at confinement. Many physicians feel that fees for Obstetrics are inadequate and that the service should be as well paid as is surgery. Before this is warranted, our obstetrical practice must be advanced to a point comparable to modern surgery in efficiency.

An increased fee should be the very least of all reasons for advocating better Obstetrics. However, it is the one too often cited by physicians as an excuse for mediocre service to pregnant patients. Better babies, more numerous babies, better mothers, increased longevity, and decreased morbidity and mortality during pregnancy, childbirth, the puerperium and after-life are the prime and compelling reasons for better Obstetrics.

As an evidence of the slow development of the art of Obstetrics, attention is invited to the method of podalic version advanced by Irving W. Potter. This is the only new thing in Obstetrics since the development of chloroform anesthesia in confinement.

It is in the matter of pre-natal care that Obstetrics differs most widely from midwifery. The average midwife cannot tell the pregnant patient any more than her own mother, married sister or friend has already told her about caring for herself during gestation. The day has not yet gone by when the physician's advice regarding pre-natal care consists in obtaining the name and address of his patient, ascertaining whether she has previously borne a child or not, and telling her to go home and take care of herself until labor pains begin. Too often the physician even forgets all about the woman until the confinement call comes.

Let us now examine the excuses of our childless women in the light of pre-natal care and consider some of the essential features of pre-natal care.

Fear that child-bearing will spoil the figure. This reason is frequently given by younger married women, especially those who come from more refined homes and who are active in out-door sports and social activities. They point with pity to their own mothers, sisters or friends whose figure-profiles are hopelessly changed by child-bearing. Their reasons are facts in many cases. Unless we can bring forward adequate means to protect the abdomen and breasts during pregnancy and lactation, so that they may retain their elasticity and contour afterwards, we shall fail in our duty.

Belief is quite general among physicians and midwives, as well as the public, that the pregnant woman should not wear a corset. In consequence many of them go to term without any abdominal support. They usually experience extreme abdominal distention, multiple striæ formation, backache, groin pains, diastasis of recti muscles, bladder embarrassment and constipation, and become practically bedridden near term.

The pregnant woman should not long continue to wear her ordinary dress corset after pregnancy is established. However, she should wear a suitable maternity corset, or maternity abdominal supporter, fitted by a competent corsetierre under the eye of her physician, not later than the fifth month, and thereafter adjusted as frequently as needed in the same careful manner, until the day of confinement. The unbounded relief afforded the gravida by a proper abdominal supporter during the latter half of pregnancy, especially if she be a multipara, is sufficient argument by itself for the supporter. Because of this relief from extreme distention of the lower abdomen, with its attendant symptoms of lumbar backache, groin pains, frequent urination and striæ formation, our gravida is enabled to be up on her feet, exercising actively, until actual settling begins.

No maternity corset or abdominal supporter, however well adjusted, will prevent striæ formation by itself; nor will spasmodic, irregular massage of the abdomen with one hand, using oils or fats, be sufficient to prevent striæ formation. Faithful, persistent, daily massage with both hands, as presently described, begun not later than the fourth month, will usually entirely prevent striæ gravidarum. The literature on Obstetrics does not lay sufficient emphasis upon means for the prevention of striæ.

It is my desire to bring the following particular method of massage to the attention of the profession. The gravida, preferably a primipara, because in her the best results can be obtained, is instructed to commence vigorous massage of the entire abdomen and hips for at least ten minutes, night and morning, beginning on the day of her first visit to the office which should be during the second, third or fourth month of pregnancy. The results will not be so satisfactory if massage is commenced later than the fourth month.

Seated in the Fowler's position, with the abdomen and hips exposed, or in the dorsal position with the head and shoulders elevated on two pillows, the patient is shown how to stretch the skin between the curved finger-tips of both hands. She is instructed to begin in the left groin and massage a strip of skin about three inches wide, extending upward toward the left costal border. Thereafter similar strips are taken up until the entire area of the abdomen is covered systematically. The hips are each massaged in like manner. The patient is told to press in deeply with the finger-tips and pull the skin vigorously until it smarts. Only then can we be sure she really stretches the elastic connective tissue fibres of the corium. If the skin is dry or becomes irritated after repeated sittings, the patient may touch her finger-tips in olive oil, palm oil or cocoa butter when beginning massage. Too much oil should not be used, however, as the finger-tips will slip too easily over the skin and no real stretching of the deep fibrous layer of the skin will be accomplished. In order to preserve the velvety texture of the abdominal skin, the patient may use at her option, after massage, a cold cream, olive oil, a rose water lotion, a lemon juice and glycerine lotion, or plain castile soap and warm water upon the abdomen.

Whenever this method was begun before the fourth month and faithfully carried out, striæ formation has been prevented. Moreover, the

abdominal skin at full term, instead of being tightly drawn like a drum-head and broken in many places by recent striæ, is soft, velvety and elastic. One primipara who began massage in the fifth month and who gained forty pounds during her pregnancy, had a few small striæ upon her hips. These were regarded as being in large part due to her rapid gain in weight. Maternity supporters should be worn at all times except when in bed. One patient, a very heavy woman, pregnant for the third time, wore her supporter even when in bed, stating that she could sleep comfortably on her side only if she kept her supporter on.

To preserve the natural contour of the breasts is even more difficult than the prevention of striæ formation upon the abdomen. The modern brasierre, which constricts and binds down the breasts to meet the demands of fashion, has very often ruined the natural contour of the virgin breasts long before the primipara presents herself to the physician for examination. Such a breast, after a few years pressure of the bandeau, is pendulous already, and the nipple is flat or actually depressed. These patients should be instructed to lay aside the dress brasierre, begin active massage of the breasts with the fingers or electric vibrator, or both, and actively draw out and develop the nipples so that they will be serviceable. A proper maternity brasierre should be worn during pregnancy and until lactation is ended. The main features of this brasierre are that it opens in front, that it has an elastic band below the breast and a box plait running vertically from the elastic band to the shoulder strap over the nipple region to give fullness and prevent compression of the nipples.

The writer instructs each primipara and most of the multipara to devote five minutes night and morning to kneading and finger massage of the breast glands to increase their circulation. The massage of the breast is completed by making traction upon the nipples and rolling them between the fingers. During the last thirty days of the pregnancy, each gravida is instructed to apply a few drops of 20 per cent glycerol of tannin to each nipple and massage until dry, once daily, covering the breast with a piece of linen or muslin to protect the underwear or nightdress from staining by the tannin. Where this has been faithfully done as directed, the result is a gratifying freedom from fissures and raw nipples.

Maternity patients deeply appreciate adequate care of their breasts, especially those who have suffered from nipple and breast gland infections in previous pregnancies. The women of this generation do not nurse their babies as long as did their mothers and grandmothers. Let us revive and encourage breast feeding by removing its dangers and by supporting the nursing breasts by proper maternity brasierres all during pregnancy and lactation, so that their contour will not be destroyed.

"Bearing children may ruin my health." How often we encounter a young married woman who dreads pregnancy for this reason! Her mother or sister, her aunt or her school chum have never had good health since childbirth. This is the most formidable reason of all which women have for dreading pregnancy. To the woman who offers this excuse for being childless, I say, "Come in and let me give you a thorough physical examination." The first cardinal principle of prenatal care is a complete physical examination of every woman before she conceives, or very early in her gestation. At such examination focal infections in the mouth, nose, throat, ears, cervix or elsewhere; nephritis, heart disease, tuberculosis, syphilis, anemia, malformations of the pelvis and many other ailments can usually be discovered. Often the woman in question will then permit the examiner to handle her case so as to avoid many of the various disasters which befall the gravida who was not thoroughly examined. It is my practice to have teeth extracted, if abscessed, carious teeth cleaned and filled, infected tonsils removed, septic nasal sinuses drained, infected appendices and pus tubes removed, septic cervices treated, the infected kidney pelvis drained and washed, syphilis and anemia actively treated, at any stage of pregnancy, before the settling of the baby just prior to its birth. The popular notion, too long entertained by physicians, that no operations or radical treatment may be done to the pregnant woman belongs in oblivion with other heresies of ignorance. The vast bulk of the ills of pregnancy, childbirth and the puerperium will be prevented when the physician shall insist upon the eradication of all focal infections early in pregnancy, and the active relief of all the diseases of the gravida which are amendable of treatment.

A woman's general health should be better during and after a normal pregnancy, properly supervised by her physician, but how few pregnancies are really normal without such supervision. I make a strong plea for complete physical examination of every pregnant woman early in pregnancy. This will often prevent the status post-partum of the woman who cries out "I have never been well since my baby came." Physical examination will also remove the basis for the fear of the nullipara that "bearing children may ruin my health."

"Babies will keep me tied down at home." Normally, pregnancy should not interfere with the ordinary going and coming of the gravida until the last three or four weeks before delivery. To this end, properly adjusted maternity supporters greatly assist in keeping pregnant patients on their feet and active almost until the delivery.

The healthy baby will not keep its mother "tied down in her home," as she expresses it, for much over one month after birth, provided she has had adequate pre-natal care. For both mother and baby we must preach a gospel of out-of-doors. It also is part of the instructions to expectant mothers to spend at least two hours out-of-doors daily. The mother who is really "tied down" at home, is so "tied" not because of her baby, as a rule, but because she is in poor physical condition for want of efficient pre-natal, confinement and post-partum care.

"Pregnancy will interfere with my work—my

position." After the fifth month most gravida should abandon employment outside their own homes. Occasionally one who is teaching school, or one who has some slight clerical employment, can retain her position longer than the fifth month. It is true that women must choose between child-bearing and business life, and that they cannot ordinarily engage in both successfully. It is also a fact that a mother should rear her own child and not delegate the task to other women. Therefore it seems to the writer that this excuse is not one which requires much consideration. Here, also, it may be said that adequate pre-natal care will smooth the way for many of the older nulliparæ who have spent their time in business occupations to contemplate child-bearing, without jeopardizing their health. Physicians are often interviewed by timid women between the ages of 30 and 40 who desire to know if it is safe for them to undertake a pregnancy at their age. If physical examination discloses a healthy woman, the answer always is in the affirmative, provided the patient will permit herself to be under constant observation during her pregnancy. Nulliparæ in the third decade of life require special pre-natal care for a successful pregancy.

"Pregnancy will interrupte my social life and club work." Usually this is the shallow excuse of the lazy and selfish woman. However, there are many women who, fearing pregnancy and childbirth, throw themselves into social activities because they wish to forget that they cannot, or fear that they cannot undertake the larger duty which nature intended them to discharge.

"I might not receive proper care when the baby comes." One of the major arguments for pre-natal care is that the gravida learns to know and trust her physician months before her delivery. She then has no fear about the care she will receive in confinement. It is the woman who has had no pre-natal care and who, perhaps, has not even seen the physician, who fears the day of confinement. Physicians who render adequate pre-natal care are trusted by their patients at the time of confinement. Many visits to the office, or to the home, have strengthened the confidence which the patient has in her physician. He has come to be something more than just "the doctor," and has taken on the related functions of advisor and friend, as well as that of a physician. Therefore, anæsthetics may be administered, manual delivery may be done, even Cesarean section may be performed at the will of the physician, because the patient feels safe in his hands.

In addition, there is an immense advantage to the physician himself in being thoroughly familiar with the condition of the patient whom he is about to confine. Many of the preventable disasters of childbirth constantly occur because the physician has not examined, or has not been permitted to examine his patient frequently before her delivery. Very few obstetricians feel satisfied with a single measurement of an abnormal pelvis. This is merely one illustration of the desirability of frequent examinations before delivery.

"We cannot afford to have children." This is a most common excuse, but one not usually true in the cases of those women who voice it. Those who truly cannot afford children are the ones who have the large families. The high cost of living does not stop child-bearing, as everyone knows.

When sincerely expressed by the patient, this excuse usually has for its background some calamity in pregnancy or childbirth which has befallen the patient's relative or friend, or which may have befallen the patient herself in a previous pregnancy. The laity and physicians alike are well aware that abnormal pregnancies and abnormal deliveries cost many times more in dollars and cents than do the normal cases, quite aside from their other distressing aspects. The writer contends that careful pre-natal care will rob even this excuse of its last basis, since it will make pregnancy and childbirth more economical from a financial standpoint.

Before conclusions are enumerated, the writer desires to acknowledge with thanks the skillful assistance of Dr. W. W. Cross of our Fresno Clinical Group, in the preparation of this paper.

CONCLUSIONS

First—Adequate pre-natal care will do more than anything else to overcome the reluctance of American women to bear children. There is still no reluctance upon the part of our foreign-born population and our domestic population of foreign parentage.

Second—Pre-natal care must provide means of preserving the figure-profile of abdomen and breasts, and prevent striæ formation, diastasis of muscles, lumbar backaches, groin pains, and bladder and bowel embarrassment during pregnancy. Means are described in this paper which are found very successful by the author. The preferred types of maternity supporter and maternity brasierre are discussed.

Third—There is immense value in early, thorough physical examination of pregnant women. Most of the disasters of pregnancy and childbirth could be prevented, or at least foreseen at such examinations. This examination inspires the confidence of the patient.

Fourth—Pre-natal care will keep the gravida on her feet during almost the whole period of her pregnancy. Her out-door life, as well as her active home life, will both be preserved, and her social life interfered with but little.

Fifth—Pre-natal care inspires trust in the heart of the patient and smooths the way for confinement and any attendant procedure the physician finds necessary.

Sixth—Pre-natal care will even overcome the excuses of women who sincerely contend that they cannot afford, financially, to have children.

Seventh, and lastly, pre-natal care will pay the physician a good return in consolation and in fees for his time and effort. Patients will pay well for good service.

Buy your health in advance, says the U. S. Public Health Service, and you wont even know you are paying for it. Good solid dependable health was never cheaper than it is today.